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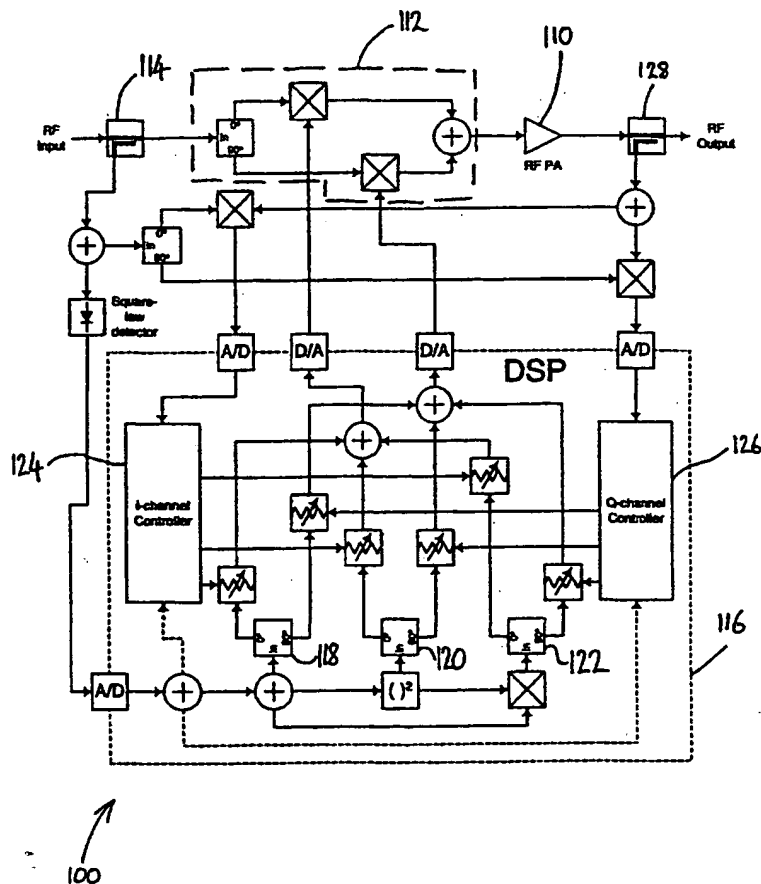
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(54) Title: A LINEARISER FOR A SIGNAL HANDLING APPARATUS



(57) Abstract: A lineariser (100) for reproducing distortion present in the output of an amplifier (110) (or other signal handling device) generates a predistortion signal from the amplifier input. The predistortion signal is mixed into the amplifier input signal using, for example, a vector modulator (112). The predistortion signal may be derived in a quadrature format, the orthogonal components of the predistortion signal being mixed into separate mixers of the vector modulator. The predistortion signal is generated by multiplying the input signal with itself repeatedly to generate components of distortion which are susceptible of independent control. The predistortion signal is generated digitally using DSP (116). A multiplier or mixer may be used to square the sampled input signal to produce a reduced frequency signal which the DSP can use to generate the predistortion signal. Another lineariser mixes the predistortion signal into the input signal during up conversion.